ALTERNATIVE TOP SLAB (STEEL REINFORCED FOR HS-20 LOADING) 1) UNPAVED SURFACE 2 PIPE CONNECTION W/KOR-N-SEAL FLEXIBLE BOOT JOINT OR APPROVED EQUAL

(3) CAST IRON MANHOLE FRAME & COVER TO BE SET IN FULL BED OF MORTAR WITH 30" CLEAR OPENING (4) PAVED SURFACE

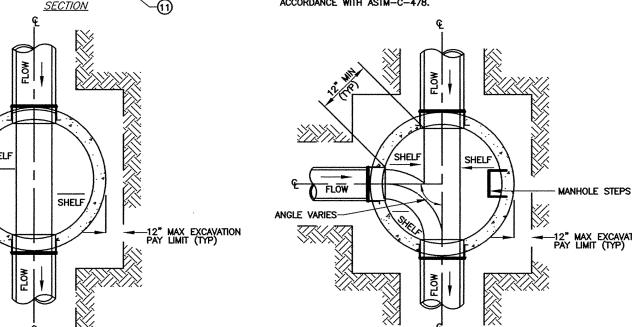
5 FRAME TO BE SET IN FULL MORTAR BED

7 STEEL REINFORCED POLYPROPYLENE MANHOLE STEP ● 12" O.C. (TYP) B BRICK SHELF ELEVATION SAME AS CROWN OF HIGHEST PIPE (SHELF SLOPE 1"/FT) 9 4000 psi CONCRETE (5" MINIMUM BELOW PIPE) 10 6" COMPACTED 3/4" CRUSHED STONE BEDDING  $\bigodot$  Compacted subgrade or compacted suitable backfill in accordance with the specifications

(12) ALL EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER PROOFING MATERIAL (13) 12" (MINIMUM) ABOVE HIGHEST CROWN

1. PRECAST CONCRETE STRUCTURES AND CASTINGS SHALL BE SUITABLE FOR HS20 LOADINGS.

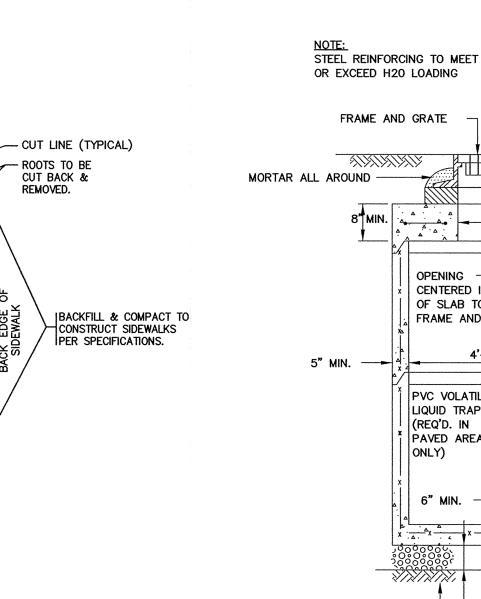
PRECAST CONCRETE STRUCTURES SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM-C-478.



TYPICAL PRECAST MANHOLE

NOT TO SCALE

PLAN PIPE THROUGH



1. LOCATE THE CUT LINES AS CLOSE TO THE CURB LINE AS POSSIBLE. 2. UNLESS DIRECTED BY THE ENGINEER, ALL EXCAVATION RELATED TO THE ROOT SYSTEM AND STUMP REMOVAL SHALL NOT BE OUTSIDE THE SIDEWALK LIMITS. 3. ALL ROOTS WITHIN 24 INCH DEPTH AND THE SIDEWALK LIMITS SHALL BE REMOVED.

TYPICAL CUT LINE
AROUND TREE TRUNK

SECTION

SIDEWALK BACK EDGE

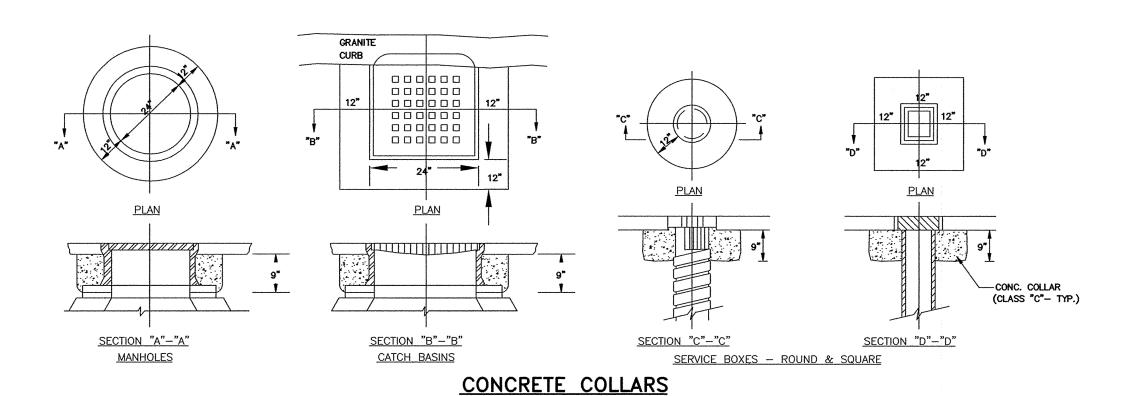
BACKFILL & COMPACT TO

ROOTS TO BE REMOVED

CONSTRUCT SIDEWALKS
PER SPECIFICATIONS

TYPICAL DOUBLE CUT LINE.
REMOVE THE ROOTS
BETWEEN THE CUT LINES.

TREE ROOT SYSTEM REMOVAL DETAIL NOT TO SCALE SOURCE: CITY OF QUINCY



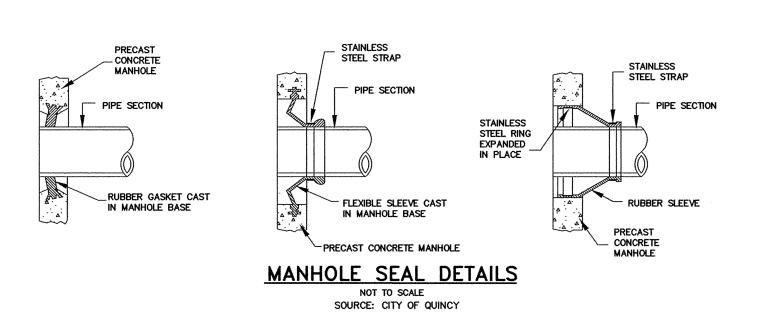
NOT TO SCALE SOURCE: CITY OF QUINCY

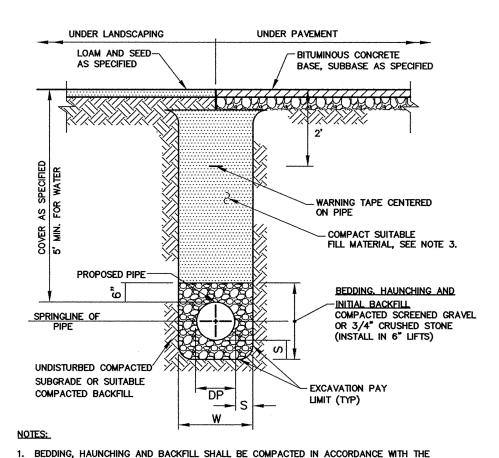
EXISTING S

EXIST./PROP.

- TYPICAL TREE ROOT SYSTEM PLAN VIEW

GRAN. CURBING





FINISHED GRADE

ADJUST TO REQUIRED GRADE

WITH BRICK MASONRY MIN. 1

COURSE, MAX. 3 COURSES OR CONCRETE GRADING RINGS. ALL

PRECAST CONCRETE TOP SLAB

PRECAST CONCRETE

CATCH BASIN RISER

JOINT SEALANT (TYP)

BUTYL RUBBER

FOR SEAL, SEE MANHOLE SEAL DETAIL

PRECAST CONCRETE CATCH BASIN BASE

BRICKS TO BE LAID AS HEADERS.

(SEE PLAN)

FRAME AND GRATE

OPENING

CENTERED IN TOP

OF SLAB TO SUIT

PVC VOLATILE

(REQ'D. IN ---

PAVED AREAS

ONLY)

LIQUID TRAP

FRAME AND COVER

4'-0" DIA.

6" CRUSHED STONE (MIN.)

UNDISTURBED MATERIAL

PRECAST CATCH BASIN DETAIL

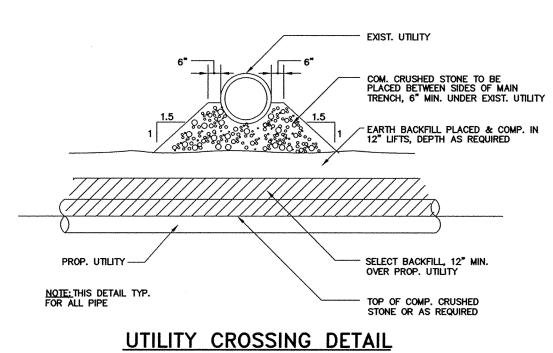
NOT TO SCALE

1. BEDDING, HAUNCHING AND BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS. NON-WOVEN GEOTEXTILE SHALL BE INSTALLED AGAINST THE TRENCH WALLS IN THE BEDDING AND HAUNCHING ZONES WHEN FINE SANDS, SILT, CLAY OR ORGANIC MATERIALS ARE ENCOUNTERED AT THE TRENCH BOTTOM.

3. SUITABLE BACKFILL IN TRENCHES UNDER ROADWAY IN COLD PLANE AREAS SHALL BE CONTROLLED DENSITY FILL TYPE 2E (M4.08.0). BACKFILL MATERIAL SHALL BE INCIDENTAL TO THE INSTALLATION OF THE RESPECTIVE PIPE & NOT MEASURED AS A SEPARATE PAY ITEM.

## TYPICAL TRENCH DETAIL NOT TO SCALE

DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAXIMUM TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)	MINIMUM CLEARANCE (S)
0-12'	TO 18*	5'	6"
0–12'	21"-24"	5'	7-1/2"
OVER 12'	TO 18"	7'	6*
OVER 12'	21"-24"	7'	7-1/2"
OVER 12'	24"-36"	7'	7-1/2"
		TABLE A	



NOT TO SCALE SOURCE: CITY OF QUINCY

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